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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,839	06/27/2005	Masanori Abe	Q88793	8993

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2100 PENNSYLVANIA AVE. NW
WASHINGTON, DC 20037-3213

EXAMINER	
MILLER, DANIEL H	
ART UNIT	**PAPER NUMBER**
1775	

MAIL DATE	DELIVERY MODE
10/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,839	ABE ET AL.	
	Examiner	Art Unit	
	Daniel Miller	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 9/7/2007.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 3-7,11-19 and 22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 3-7,11-19 and 22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 3-4, 7, 14-15, 18-19 and 22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Young (6,586,087).

2. An article of manufacture that has a component (substrate) capable of being sealed with a copper aluminosilicate glass. The glass has a composition consisting essentially, in terms of weight percent on an oxide basis, of 35-68 SiO.sub.2, 3-25 Al.sub.2 O.sub.3, 2-26 B.sub.2 O.sub.3, 0-20 R.sub.2 O, 0-30 RO, 2-33 CuO, 0-4 F, 0-10 M.sub.x O.sub.y, where R.sub.2 O is an alkali oxide selected from the group consisting of Li.sub.2 O, Na.sub.2 O, and K.sub.2 O, and RO is an alkaline earth oxide selected from the group consisting of CaO, MgO, ZnO, SrO, and BaO, and M.sub.x O.sub.y is a transition metal oxide selected from the group consisting of Co.sub.2 O.sub.3, TiO.sub.2, NiO, MnO.sub.2, and Fe.sub.2 O.sub.3. The present invention also pertains to a method of sealing the article (see abstract).

3. The compositional percentages taught overlaps applicant's claimed compositions, therefore the disclosure is considered to anticipate the reference. In the alternative, it would have been obvious to select a composition within the range as disclosed by applicant and taught by the reference (Young) since they overlap compositionally and percentage wise.

4. Regarding applicant's claimed to spherical protruded layers and zirconium and group 3a concentration, it appears from applicant's disclosure that the layers are formed inherently from the composition. Therefore, the same layering and protrusions as claimed by applicant would be expected in the disclosed invention of Young.

5. Claims 3-4, 7, 14-15, 18-19 and 22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chiba (6,362,119).

6. Chiba teaches a barium borosilicate glass which consists essentially of, as represented by mass% based on the following oxides:

7. B.sub.2 O.sub.3 5 to 35%, SiO.sub.2 0.5 to 30%, BaO 25 to 75%, Al.sub.2 O.sub.3 0.5 to 13%, SnO.sub.2 0 to 2%, CeO.sub.2 0 to 2%, MgO + CaO + SrO 0 to 10%, ZnO 0 to 20%, TiO.sub.2 0 to 5%, ZrO.sub.2 0 to 5%, Li.sub.2 O 0 to 5%, Na.sub.2 O 0 to 5%, and K.sub.2 O 0 to 5% (see abstract).

8. The compositional percentages taught overlaps applicant's claimed compositions, therefore the disclosure is considered to anticipate the reference. In the alternative, it would have been obvious to select a composition within the range as disclosed by applicant and taught by the reference since they overlap compositionally and percentage wise.

9. The glass is used on a coating in a variety of application (substrates), such as glaze for dishes or coatings for electronic components (column 1 line 5-10).

10. Regarding applicant's claimed to spherical protruded layers and zirconium and group 3a concentration, it appears from applicant's disclosure that the layers are formed inherently from

the composition. Therefore, the same layering and protrusions as claimed by applicant would be expected in the disclosed invention of Chiba.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 5-6, 1-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba (US 6,362,119) in view of Kub (US 6,323,108).

13. Chiba teaches a barium borosilicate glass which consists essentially of, as represented by mass% based on the following oxides:

14. B.sub.2 O.sub.3 5 to 35%, SiO.sub.2 0.5 to 30%, BaO 25 to 75%, Al.sub.2 O.sub.3 0.5 to 13%, SnO.sub.2 0 to 2%, CeO.sub.2 0 to 2%, MgO + CaO + SrO 0 to 10%, ZnO 0 to 20%, TiO.sub.2 0 to 5%, ZrO.sub.2 0 to 5%, Li.sub.2 O 0 to 5%, Na.sub.2 O 0 to 5%, and K.sub.2 O 0 to 5% (see abstract).

15. The compositional percentages taught overlaps applicant's claimed compositions, therefore the disclosure is considered to anticipate the reference. In the alternative, it would have been obvious to select a composition within the range as disclosed by applicant and taught by the reference since they overlap compositionally and percentage wise.

16. The glass is used on a coating in a variety of application (substrates), such as glaze for dishes or coatings for electronic components (column 1 line 5-10).

17. However the reference is silent as to an intermediate SiO2 layer.

18. Kub teaches a common configuration for an electrical device (semiconductor) with a silicon substrate and a SiO2 interlayer (see figures). It would have been obvious to use the sealing layer of Chiba in the electrical device of Kub providing a SiO2 interlayer because it is a common and known electrical (semiconductor) configuration and the coating of Chiba are taught to be employed for electrical devices.

19. The claimed molten layer would inherently form when the melted top layer of Chiba is formed over the SiO2 layer of Kub.

Response to Arguments

20. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Miller whose telephone number is (571)272-1534. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Miller

JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
10/1/7